

17-20
Dicembre
2025
Napoli

70^o C O N G R E S S O
N A Z I O N A L E
SIGG
LIBERI E LONGEVI

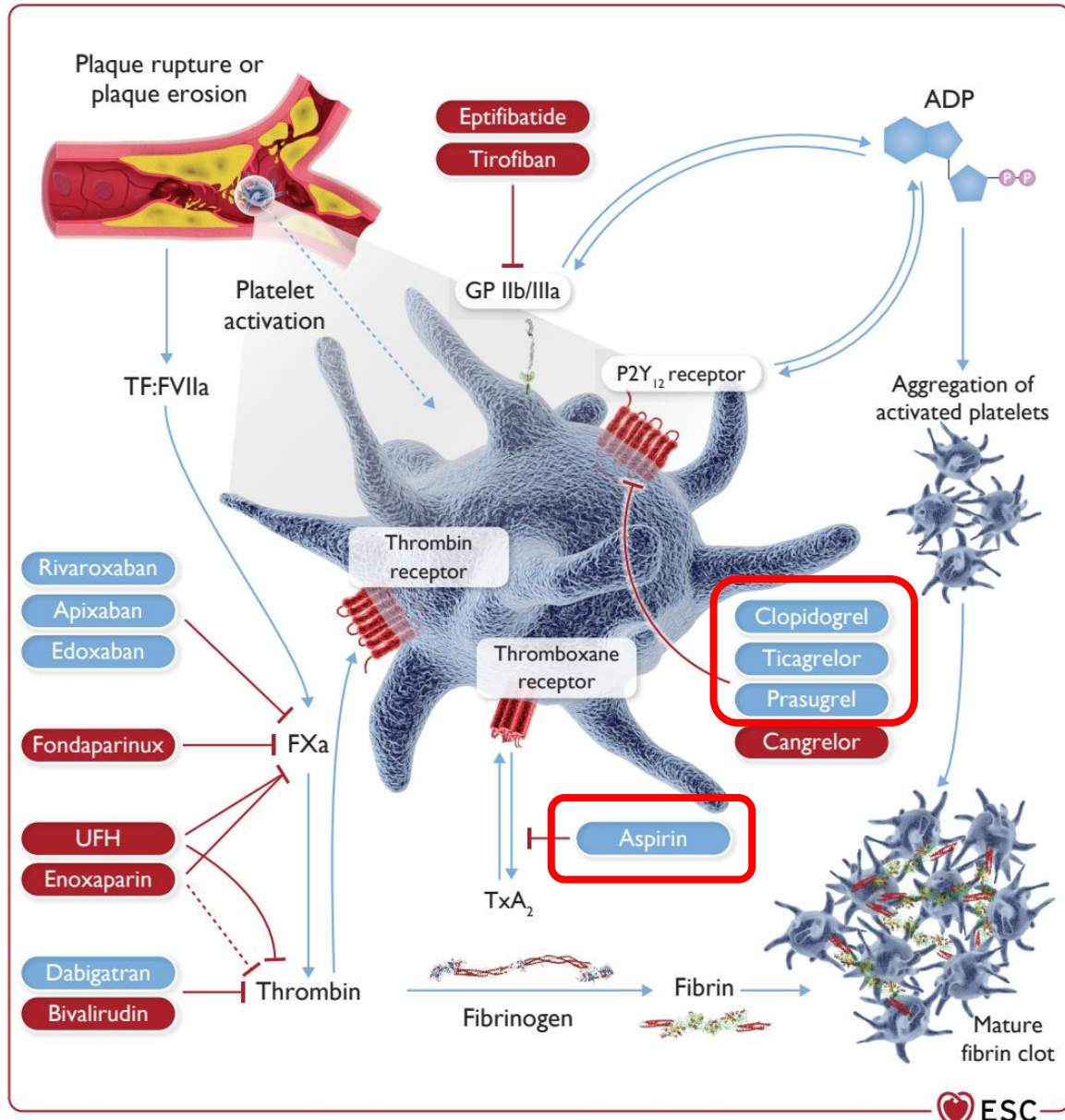
Università degli
Studi di Napoli
Federico II
Polo Didattico
di **SCAMPIA**



SIMPOSIO SIGG-SIC
SINDROMI CORONARICHE CRONICHE
NELL'ANZIANO ALLA LUCE
DELLE LINEE GUIDA ESC 2024

Come cambia la terapia antitrombotica nell'anziano con coronaropatia

Plinio Cirillo
Dipartimento di Scienze Biomediche Avanzate
Università di Napoli «Federico II»



Why we have difficulty in choosing the appropriate antithrombotic therapy in the elderly?

ASSENZA DI UN CONSENSO SULLA DEFINIZIONE DI ANZIANO

GLI ANZIANI SPESSO SONO ESCLUSI DAI TRIAL

RACCOMANDAZIONI ESTRAPOLATE DA STUDI CONDOTTI SU PAZIENTI GIOVANI

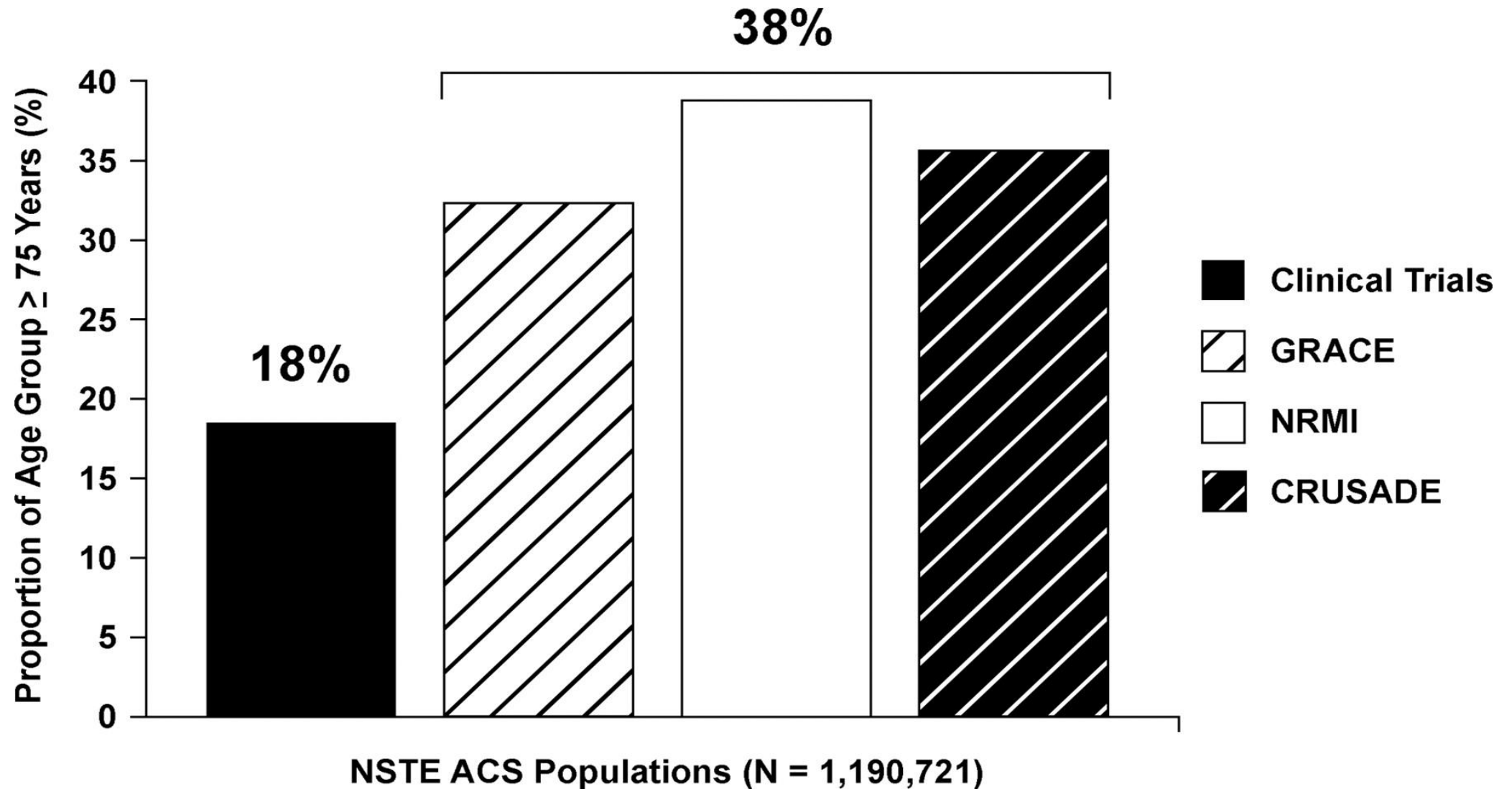
**SCARSO UTILIZZO DELLA
DIAGNOSTICA INVASIVA**

**SCARSO UTILIZZO DELLE TERAPIE
ANTITROMBOTICHE ADEGUATE**

**CATTIVO UTILIZZO DELLE
TERAPIE
ANTITROMBOTICHE CON
DOSAGGI ECCESSIVI**

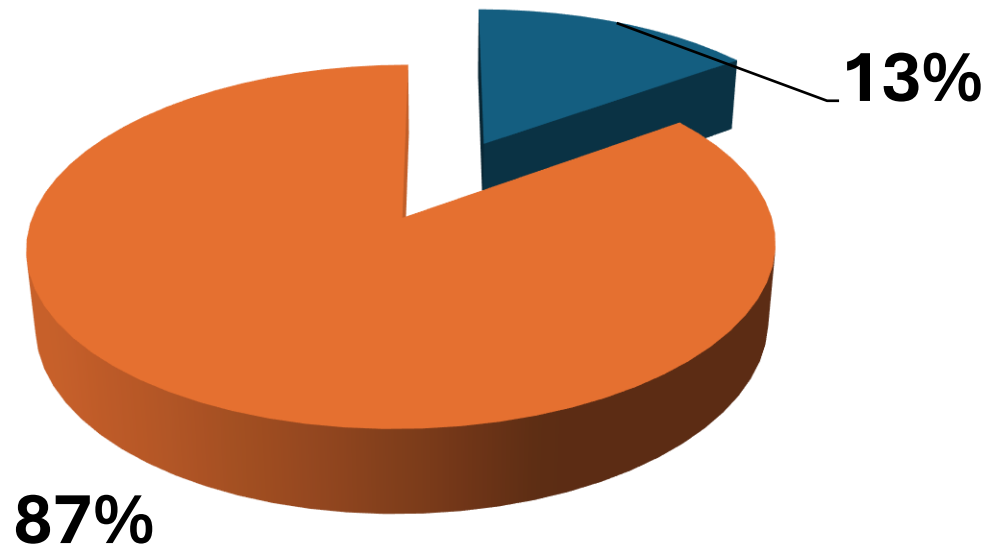
SCELTE TERAPEUTICHE ARBITRARIE

Elderly patients (75 years) are poor represented in RCT and registries in cardiology

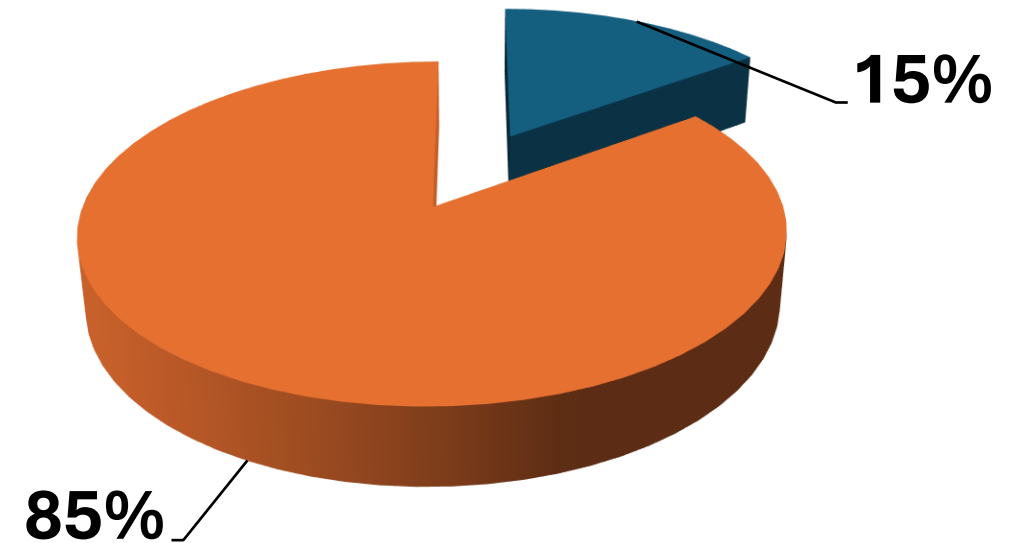


Elderly patients (>75 years) in «pivotal» DAPT studies

TRITON TIMI 38
(prasugrel)



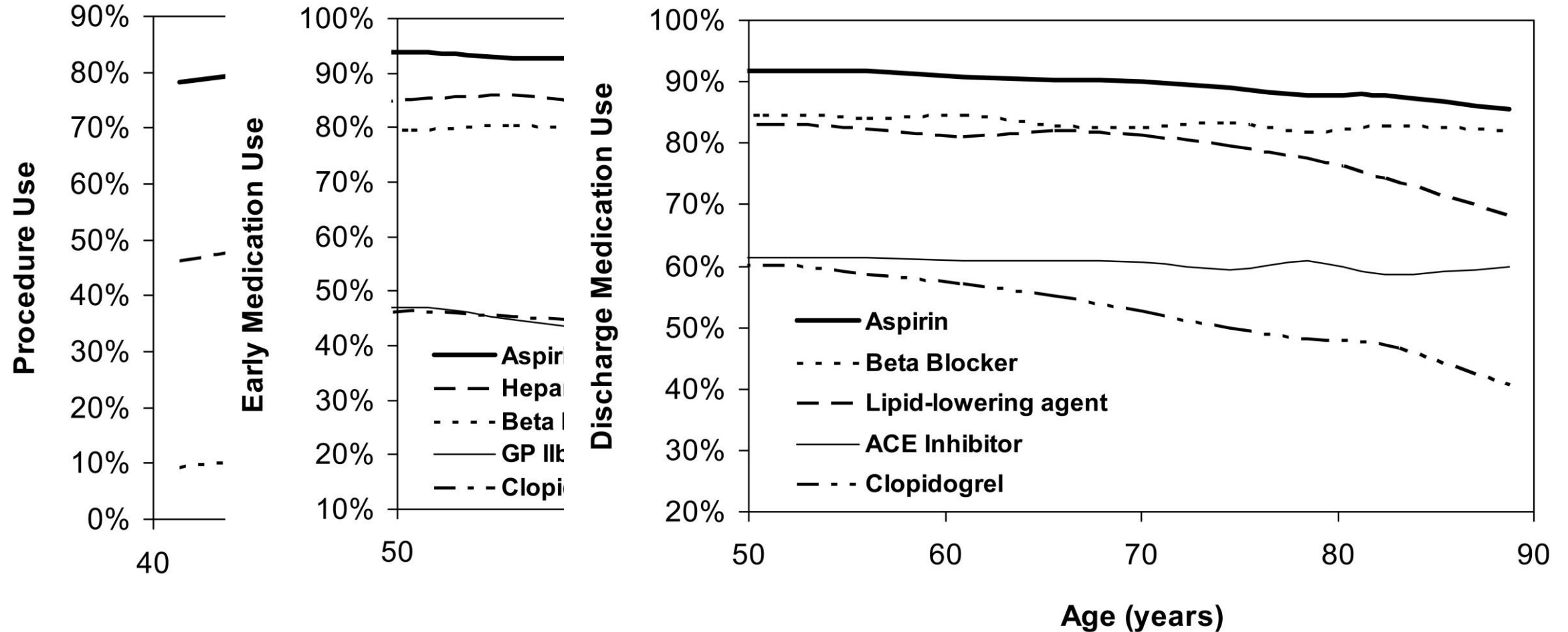
PLATO
(ticagrelor)



Evolution in Cardiovascular Care for Elderly Patients With Non-ST-Segment Elevation Acute Coronary Syndromes

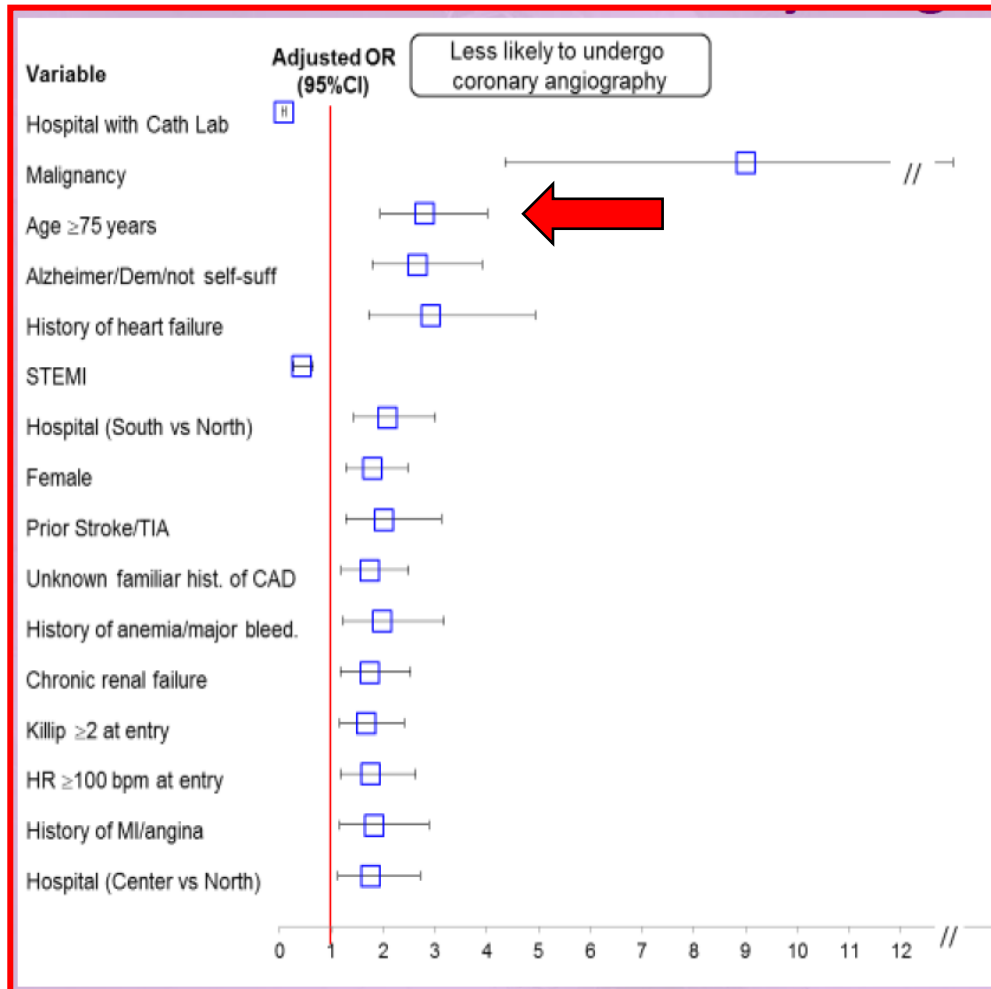
Results From the CRUSADE National Quality Improvement Initiative

Karen P. Alexander, MD* Matthew T. Roe, MD, MHS,* Anita Y. Chen, MS,* Barbara L. Lytle, MS,* Charles V. Pollack, Jr, MD, MA,† Joanne M. Foody, MD,‡ William E. Boden, MD,§ Sidney C. Smith, Jr, MD,|| W. Brian Gibler, MD,¶ E. Magnus Ohman, MD,|| Eric D. Peterson, MD, MPH,* for the CRUSADE Investigators

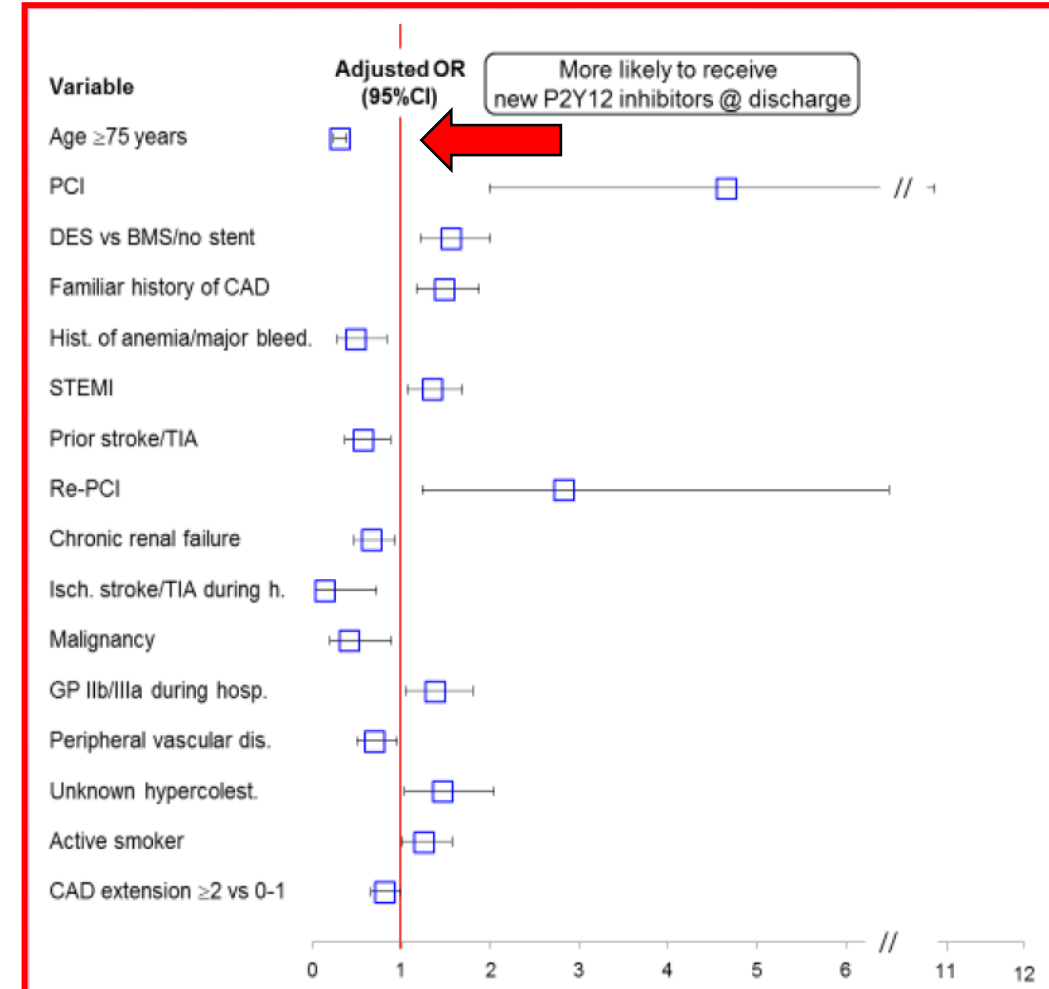


Contemporary antithrombotic strategies in patients with acute coronary syndrome admitted to cardiac care units in Italy: The EYESHOT Study

Predictors of NO coronary angiography



Predictors of New P2Y12 prescription



**4 VINCITORE DI
PREMI OSCAR
MIGLIOR FILM**



**TOMMY LEE
JONES**

**JAVIER
BARDEM**

**JOSH
BROLIN**

NON E' UN PAESE PER VECCHI

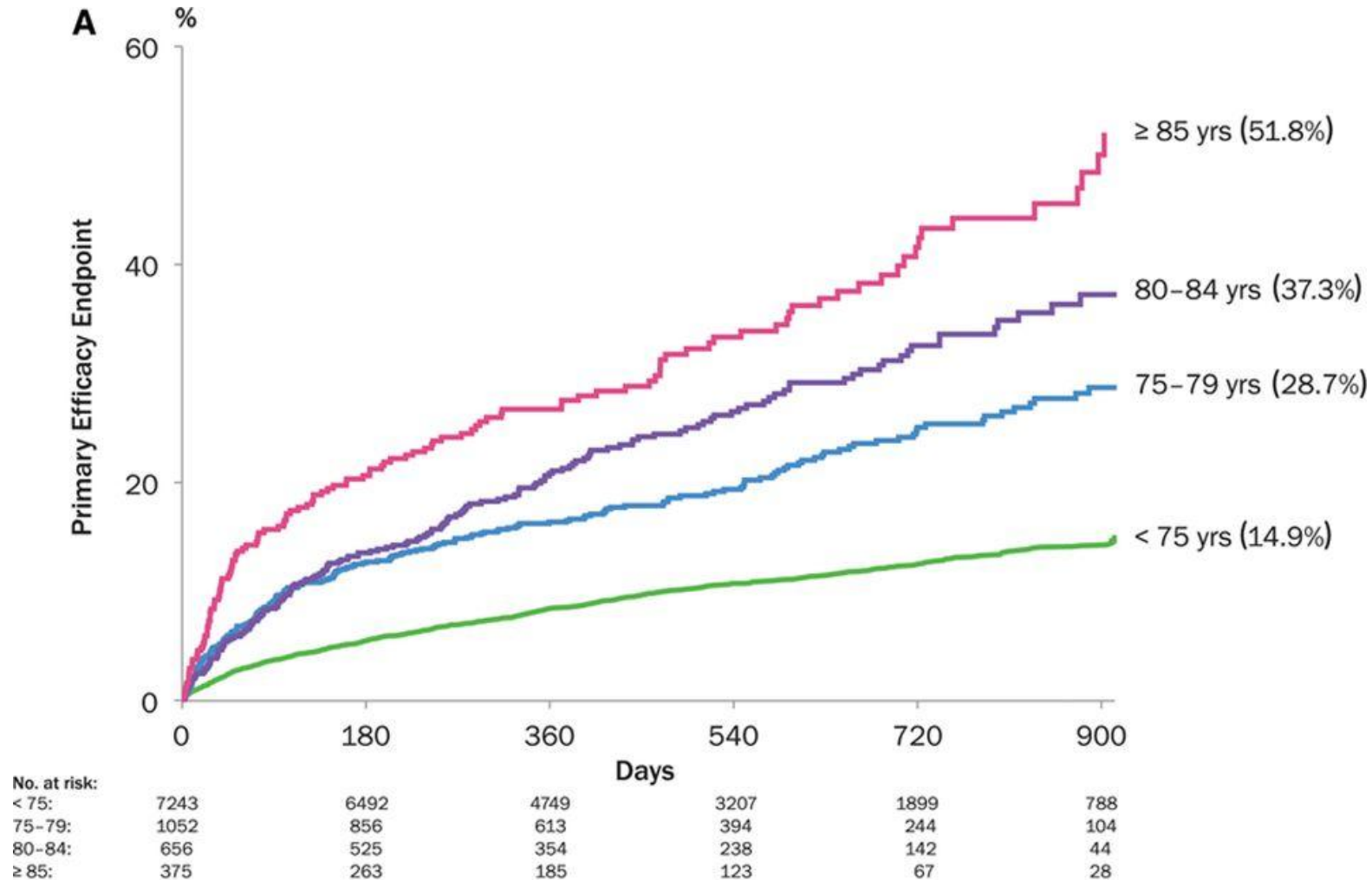
UN FILM DEI FRATELLI COEN



NON SI PUÒ MAI SCAPPARE FACILMENTE

Risk of ischaemic events is higher in the elderly

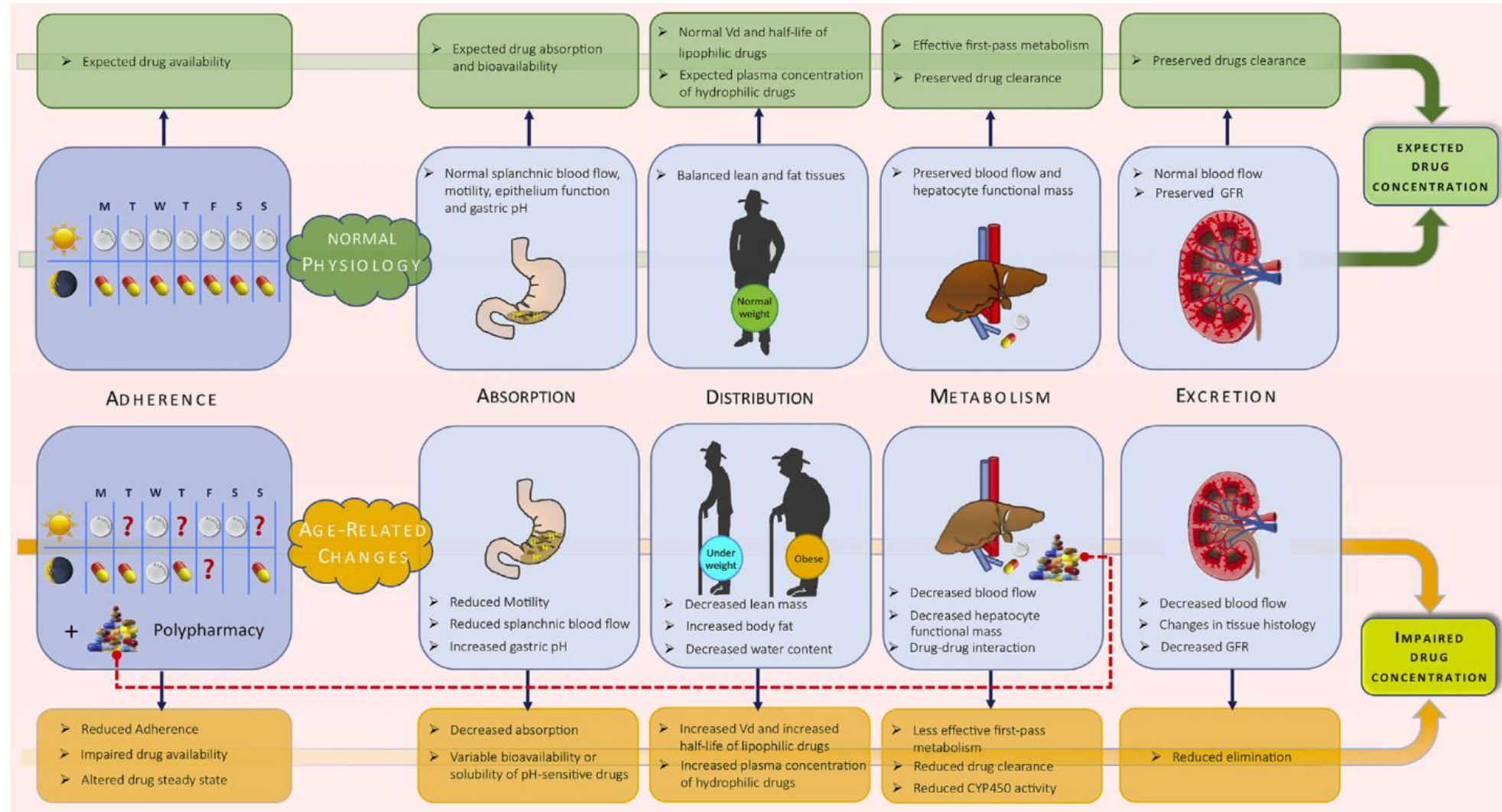
Cardiovascular death, nonfatal MI, or nonfatal stroke



Risk Factors for Thrombotic Events in the Elderly

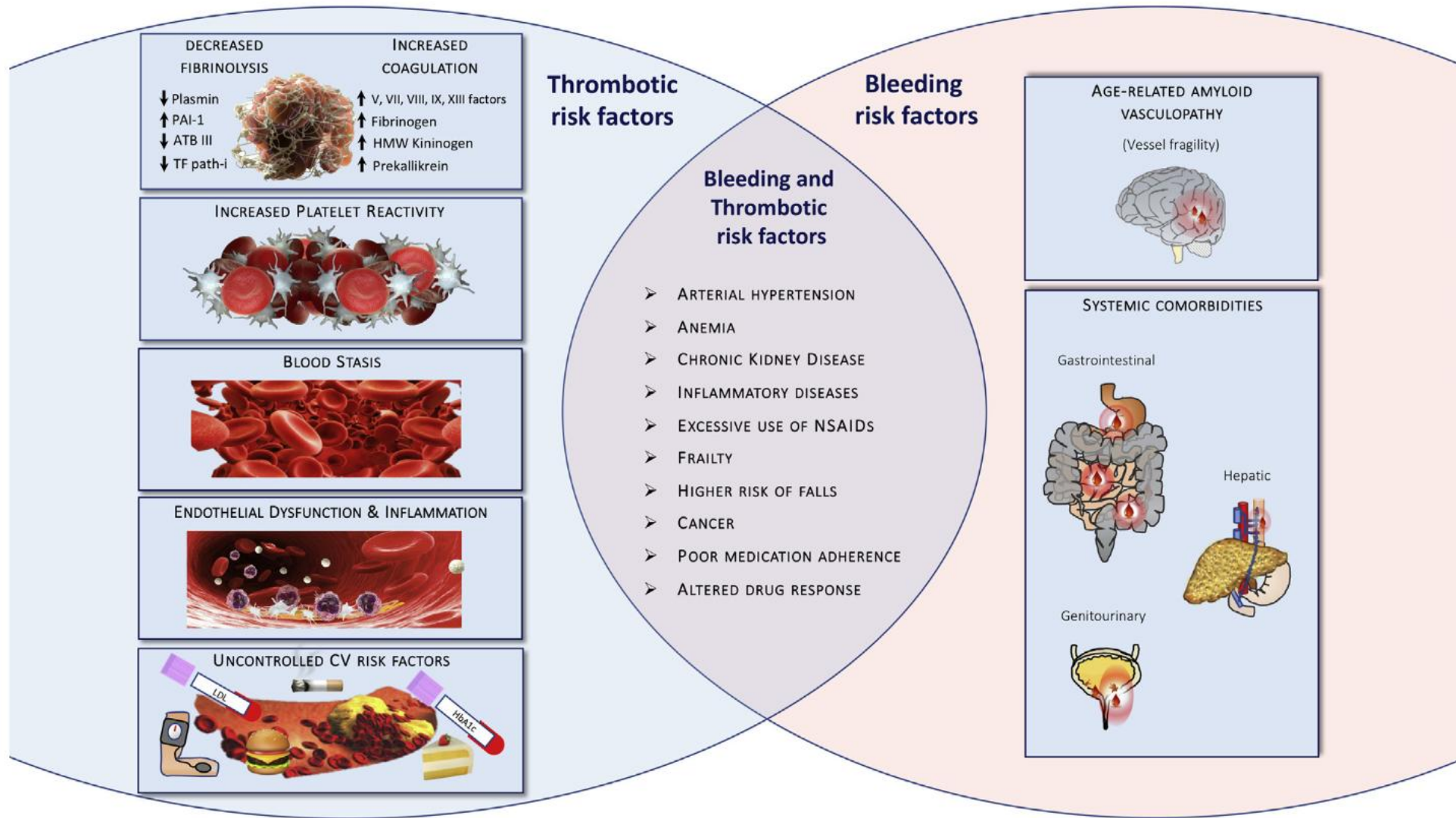
Condition	Mechanism	Clinical Implications
Increased platelet reactivity	↑ ADP-induced platelet aggregation	Enhanced thrombus formation
Reduced antiplatelet activity	↓ PGI ₂ ; ↓ circulating PGI ₂	Higher platelet aggregation
Endothelial dysfunction	↓ NO production	Reduced antiplatelet effect
Increased intraplatelet ROS production	↑ NO degradation	Prothrombotic state
Altered coagulation cascade	↑ Procoagulant factors	Hypercoagulability
Chronic inflammatory state	Persistent activation platelets	Sustained prothrombotic state
Reduced fibrinolytic activity	↑ PAI-1	Impaired clot dissolution

FIGURE 2 Age-Related Factors Affecting Pharmacokinetic and Pharmacodynamic Profiles of Antithrombotic Therapies



Thrombosis
Bleeding

FIGURE 1 Risk Factors for Thrombotic and Bleeding Events in Elderly Patients



Defining high bleeding risk in patients undergoing percutaneous coronary intervention: a consensus document from the Academic Research Consortium for High Bleeding Risk

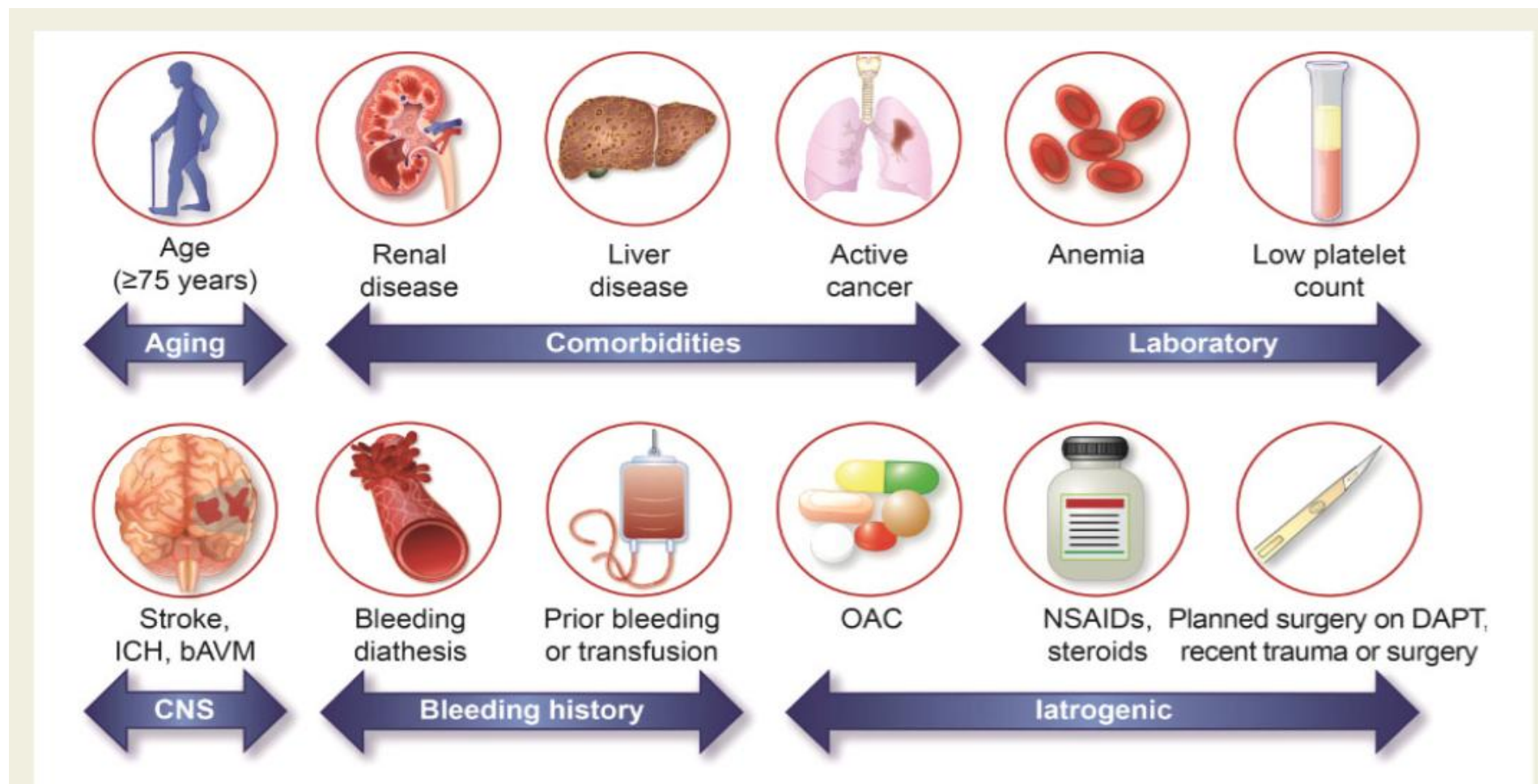
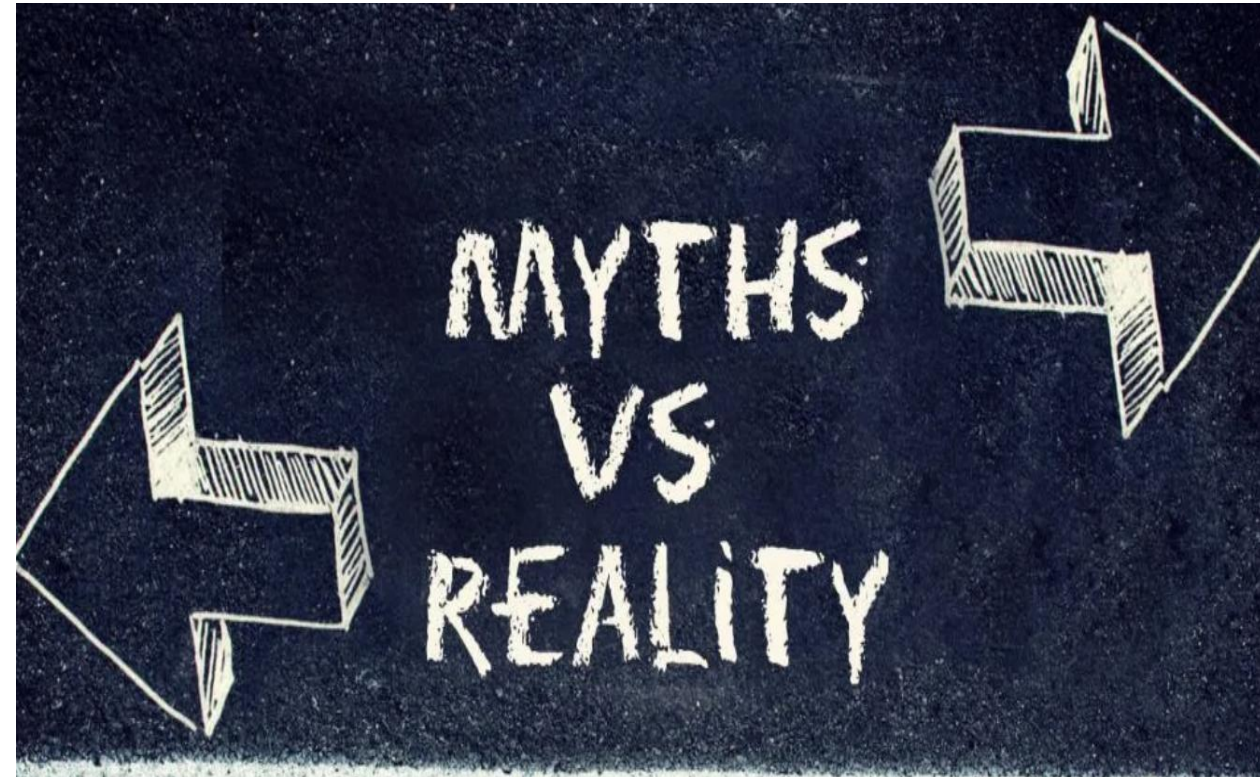
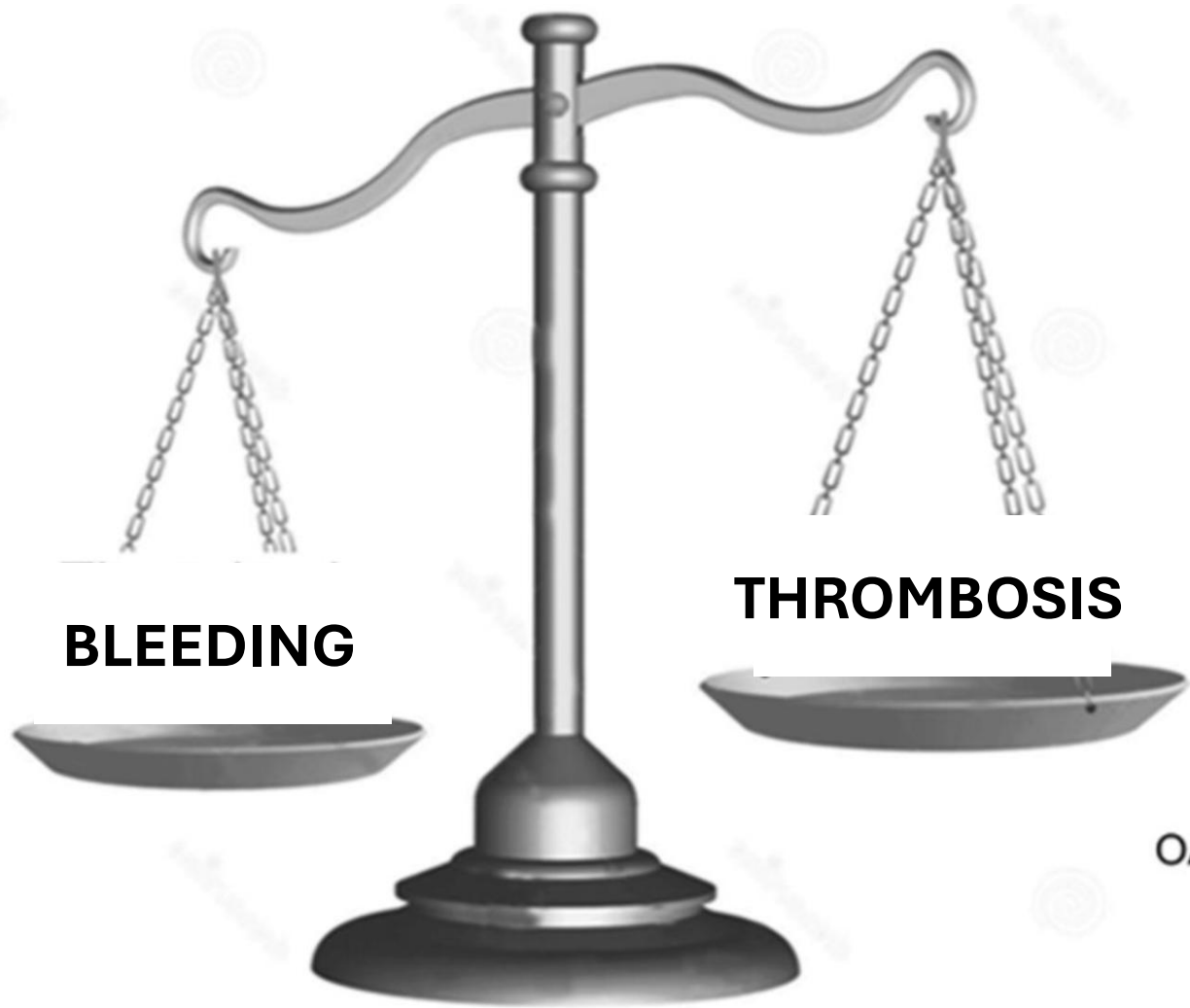


Figure Factors associated with an increased bleeding risk after percutaneous coronary intervention. bAVM indicates brain arteriovenous malformation; CNS, central nervous system; DAPT, dual antiplatelet treatment; ICH, intracranial hemorrhage; NSAID, nonsteroidal anti-inflammatory drug; and OAC, oral anticoagulation.

Thrombosis VS Bleeding in elderly patients on DAPT



RCTs

TABLE 1 Age-Specific Data in Studies of Dual-Antiplatelet Therapy

Study	Population and Management	Follow-Up	Compared P2Y ₁₂ Inhibitors*	Overall Patients and Age Subgroups	Primary Efficacy/Net Net Endpoint Rates HR (95% CI)	Bleeding Events Rates HR (95% CI)
CURE	NSTE-ACS PCI 21.2% CABG 16.5% CT 62.3%	1 yr	Clopidogrel vs. placebo	Overall, n = 12,562 Age ≤65 yrs, n = 6,354 Age >65 yrs, n = 6,208	CV death, MI, or stroke 9.3% vs. 11.4%; 0.80 (0.72–0.90) 5.4% vs. 7.6%; HR NA 13.3% vs. 15.3%; HR NA	Major bleeding 3.7% vs. 2.7%; 1.38 (1.13–1.67) Data NA Data NA
TRITON-TIMI 38	Invasively treated ACS PCI 99% CABG 1%	15 months	Prasugrel vs. clopidogrel	Overall, n = 13,608 Age <65 yrs, n = 8,322 Age 65–74 yrs, n = 3,477 Age ≥75 yrs, n = 1,809	CV death, MI, or stroke 9.9% vs. 12.1%; 0.76 (0.66–0.86) 8.1% vs. 10.6%; HR NA 10.7% vs. 12.3%; HR NA 17.2% vs. 18.3% HR NA	TIMI major bleeding 2.4% vs. 1.8%; 1.32 (1.03–1.68) Bleeding data NA Bleeding data NA Net clinical benefit: rates NA; 0.99 (0.81–1.21)†
PLATO	Invasively and medically treated ACS PCI 61% CABG 45.5% CT 34.5%	1 yr	Ticagrelor vs. clopidogrel	Overall, n = 18,624 Age <65 yrs, n = 10,643 Age ≥65 yrs, n = 7,979 Age <75 yrs, n = 15,744 Age ≥75 yrs, n = 2,878	CV death, MI, or stroke 9.8% vs. 11.7%; 0.84 (0.77–0.92) 7.2% vs. 8.5%; 0.85 (0.74–0.97) 13.2% vs. 16.0%; 0.83 (0.74–0.94) 8.6% vs. 10.4%; 0.84 (0.75–0.93) 17.2% vs. 18.3%; 0.89 (0.74–1.08)	PLATO major bleeding 11.6% vs. 11.2%; 1.04 (0.95–1.13) 9.5% vs. 9.5%; 1.00 (0.87–1.13) 14.4% vs. 13.6%; 1.07 (0.95–1.22) 11.2% vs. 10.8%; 1.04 (0.94–1.15) 14.2% vs. 13.5%; 1.02 (0.82–1.27)

Registry

BREMEN-STEMI Registry	STEMI with age ≥75 yrs PCI 100%	1 yr	Ticagrelor vs. clopidogrel	Age ≥75 yrs, n = 1,087	Death, MI, or stroke 25.5% vs. 32.4%; adjusted HR: 0.69 (0.49–0.97)	Significant bleeding 5.1% vs. 4.9%; adjusted HR: 1.08 (0.49–2.37)
SWEDEHEART registry	MI with age ≥80 yrs PCI 58.3%	1 yr	Ticagrelor vs. clopidogrel	Age ≥80 yrs, n = 14,005	Death, MI, or stroke 18.7% vs. 32.8%; adjusted HR: 0.97 (0.88–1.06)	Readmission for bleeding 6.90% vs. 4.86%; adjusted HR: 1.48 (1.25–1.76)

TABLE 2 Age-Specific Data in Studies of Extended Dual-Antiplatelet Therapy

Study	Population	Follow-Up	DAPT vs. Aspirin	Overall Patients and Age Subgroups	DAPT vs. Aspirin	
					Primary Efficacy Endpoint Rates HR (95% CI)	Bleeding Events Rates HR (95% CI)
DAPT	1 yr after PCI and DAPT (without prior ischemic or bleeding)	30 months	Clopidogrel or prasugrel plus aspirin vs. aspirin + placebo	Overall, n = 9,961	Death, MI, or stroke 4.3% vs. 5.9%; 0.71 (0.59-0.85)	GUSTO moderate/severe 2.5% vs. 1.6%; 1.61 (1.21-2.16)
				Age <75 yrs, n = 8,929	4.0% vs. 5.8%; 0.69 (0.57-0.83)	2.3% vs. 1.3%; 1.78 (1.29-2.47)
				Age ≥75 yrs, n = 1,032	6.8% vs. 7.1%; 0.95 (0.59-1.52)	3.7% vs. 3.6%; 1.03 (0.54-1.98)
PEGASUS-TIMI 54*	Prior MI (>1-3 yrs)†	3 yrs	Ticagrelor 60 mg plus aspirin vs. aspirin + placebo	Overall, n = 21,162	CV death, MI, or stroke 7.77% vs. 9.04%; 0.84 (0.74-0.95)	TIMI major bleeding 2.30% vs. 1.06%; 2.32 (1.68-3.21)
				Age <75 yrs, n = 18,079	7.23% vs. 8.27%; 0.86 (0.75-0.98)	2.05% vs. 0.96%; 2.30 (1.60-3.32)
				Age ≥75 yrs, n = 3,083	11.0% vs. 13.5%; 0.77 (0.59-1.01)	4.11% vs. 1.68%; 2.50 (1.25-4.97)

2023 ESC Guidelines for the management of acute coronary syndromes

Developed by the task force on the management of acute coronary syndromes of the European Society of Cardiology (ESC)

Antiplatelet therapy

Aspirin is recommended for all patients without contraindications at an initial oral LD of 150–300 mg (or 75–250 mg i.v.) and an MD of 75–100 mg o.d. for long-term treatment.	I	A
In all ACS patients, a P2Y ₁₂ receptor inhibitor is recommended in addition to aspirin, given as an initial oral LD followed by an MD for 12 months unless there is high bleeding risk.	I	A
Prasugrel is recommended in P2Y ₁₂ receptor inhibitor-naïve patients proceeding to PCI (60 mg LD, 10 mg o.d. MD, 5 mg o.d. MD for patients aged ≥75 years or with a body weight <60 kg).	I	B
Ticagrelor is recommended irrespective of the treatment strategy (invasive or conservative) (180 mg LD, 90 mg twice a day MD).	I	B
Clopidogrel (300–600 mg LD, 75 mg o.d. MD) is recommended when prasugrel or ticagrelor are not available, cannot be tolerated, or are contraindicated.	I	C

Acute AMI setting

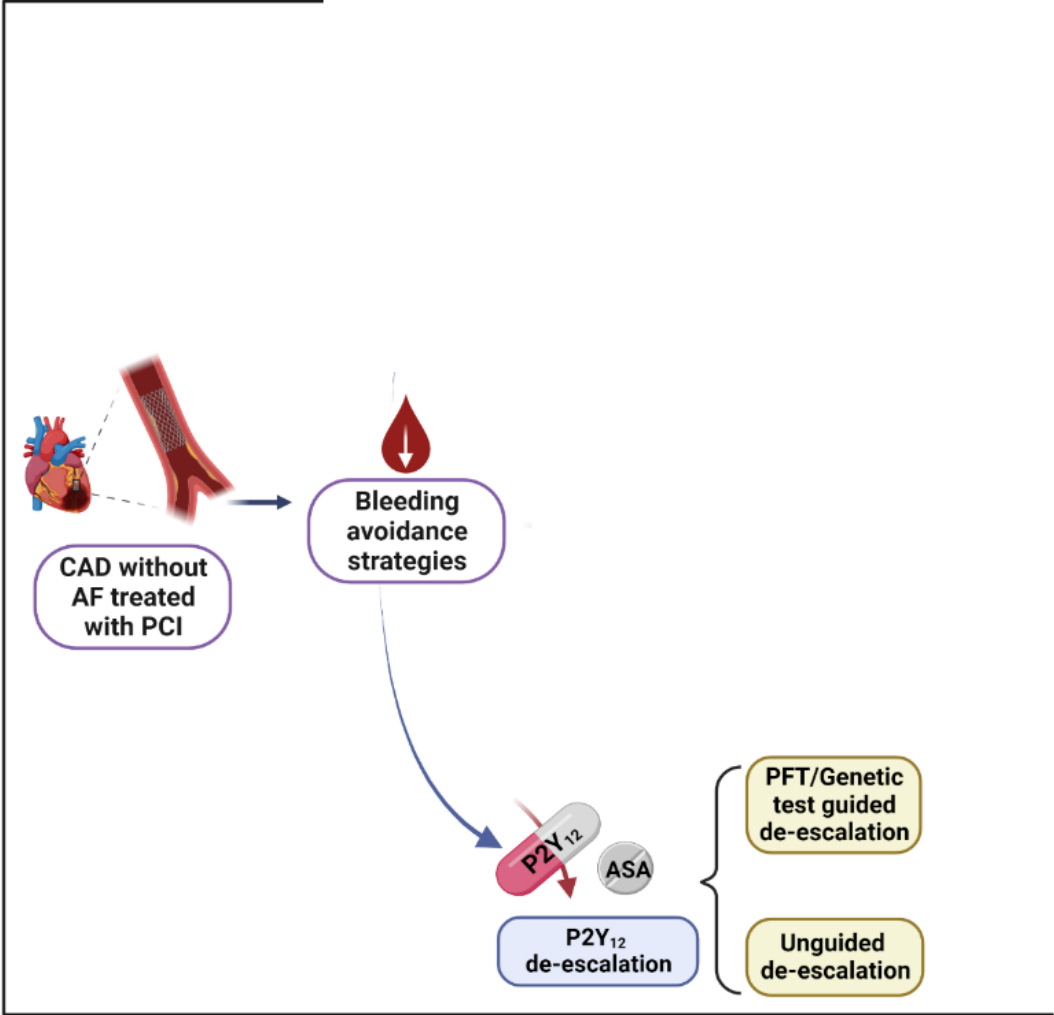
2024 ESC Guidelines for the management of chronic coronary syndromes

Table 8 Options for extended intensified antithrombotic therapy

Drug	Dose	Clinical setting	NNT (ischaemic outcomes)	NNH (bleeding outcomes)
<i>Co-administered with aspirin 100 mg o.d.</i>				
Rivaroxaban (COMPASS trial; vs. placebo)	2.5 mg b.i.d.	Patients with CAD or symptomatic PAD at high risk of ischaemic events	77	84 (modified-ISTH major bleeding)
<i>Co-administered with low-dose aspirin 75–162 mg o.d.</i>				
Clopidogrel, (6505/9961 of DAPT trial; vs. placebo)	75 mg/day	Post MI in patients who have tolerated DAPT for 1 year (25% ACS, 22% previous MI)	63	105 (moderate and severe GUSTO bleeds, or BARC 2, 3, and 5 bleeds)
Prasugrel, (3456/9961 of DAPT trial; vs. placebo)	10 mg/day (5 mg/day if body weight <60 kg or age ≥75 years)	Post PCI for MI in patients who have tolerated DAPT for 1 year	63	105 (as above)
Ticagrelor (PEGASUS-TIMI 54; vs. placebo)	60/90 mg b.i.d.	Post-MI in patients who have tolerated DAPT for 1 year	84	81 (TIMI major bleeds)

Beyond 12 months

Hypothetical strategies to reduce bleeding

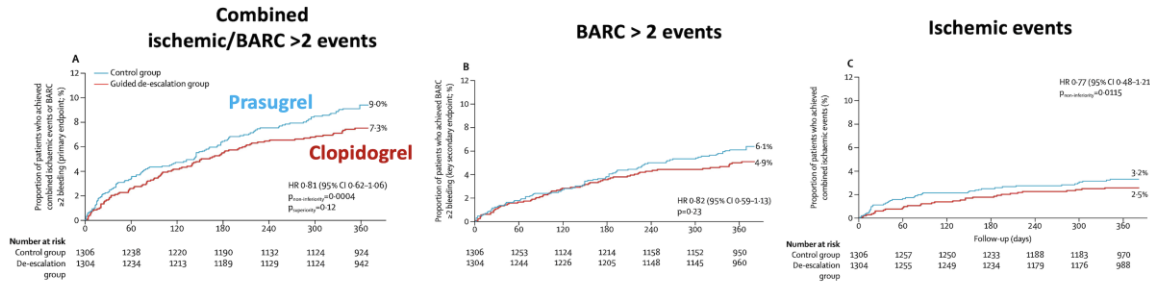


Guided de-escalation of antiplatelet treatment in patients with acute coronary syndrome undergoing percutaneous coronary intervention (TROPICAL-ACS): a randomised, open-label, multicentre trial

Dirk Sibbing*, Dániel Aradi†, Claudius Jacobshagen, Lisa Gross, Dietmar Trenk, Tobias Geisler, Martin Orban, Martin Hadamitzky, Béla Merkely, Robert Gabor Kiss, András Komócsi, Csaba A. Dézsi, Lesca Holdt, Stephan B. Felix, Radosław Parma, Mariusz Klopotowski, Robert H.G. Schwinger, Johannes Blöbe, Kurt Huber, Franz-Josef Neumann, Lukasz Kalbowski, Julinda Mehlli, Zemon Huscek, Steffen Massberg, on behalf of the TROPICAL-ACS Investigators†

Guided by function

2610 eligible patients with acute coronary syndrome



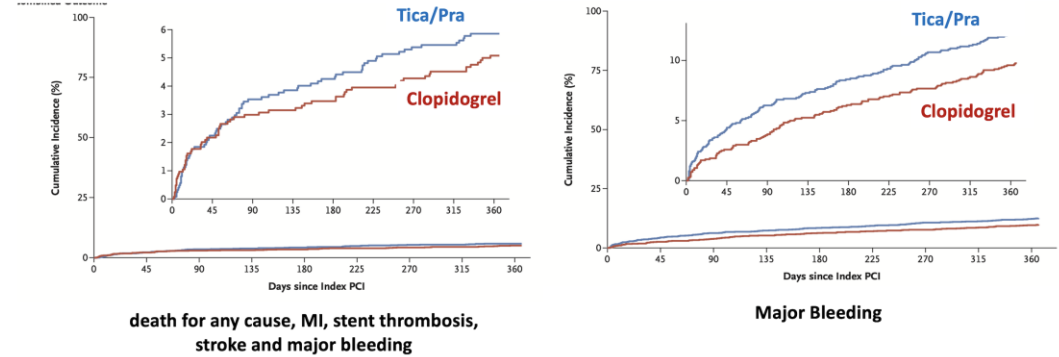
Lancet 2017; 390: 1747-57

A Genotype-Guided Strategy for Oral P2Y₁₂ Inhibitors in Primary PCI

Daniel M.F. Claassens, M.D., Gerrit J.A. Vos, M.D., Thomas O. Bergmeijer, M.D., Renicus S. Hermansides, M.D., Ph.D., Arnoud W.J. van 't Hof, M.D., Ph.D., Pim van der Harst, M.D., Ph.D., Emanuela Barbato, M.D., Ph.D., Carmine Morisco, M.D., Ph.D., Richard M. Tjoen Joe Gin, M.D., Folkert W. Asselbergs, M.D., Ph.D., Arend Mosterd, M.D., Ph.D., Jean-Paul R. Herrman, M.D., Ph.D., Willem J.M. Dewilde, M.D., Ph.D., Paul W.A. Janssen, M.D., Ph.D., Johannes C. Kelder, M.D., Ph.D., Maarten J. Postma, Ph.D., Anthonius de Boer, M.D., Ph.D., Cornelis Boersma, Pharm.D., Ph.D., Vera H.M. Deneer, Pharm.D., Ph.D., and Jurriën M. ten Berg, M.D., Ph.D.

2488 patients were included primary PCI with stent implantation

Guided by genotype



N ENGL J MED 2019; 381; 17: OCTOBER 24

TROPICAL-ACS	ACS and PCI	1 yr	1 week prasugrel followed by 1 week clopidogrel and PFT-guided therapy with clopidogrel or prasugrel thereafter	Aspirin plus prasugrel 10 mg for 1 yr	Overall, n = 2,610 Age ≤70 yrs, n = 2,240 Age >70 yrs, n = 370	CV death, MI, stroke, or BARC type ≥2 7% vs. 9%; 0.81 (0.62-1.06) 5.9% vs. 8.3%; 0.70 (0.51-0.96) 15.5% vs. 13.6%; 1.17 (0.69-2.01)
POPular Genetics	ACS and PCI	1 yr	Carriers of CYP2C19*2 or CYP2C19*3 loss-of-function alleles received ticagrelor or prasugrel, and noncarriers received clopidogrel	Aspirin plus prasugrel or ticagrelor for 1 yr	Overall, n = 2,488 Age <75 yrs, n = 2,125 Age ≥75 yrs, n = 363	Death, MI, stroke, ST or PLATO major bleeding PLATO major or minor bleeding 5.1% vs. 5.9%; 0.87 (0.62-1.21) 9.8% vs. 12.5%; 0.78 (0.61-0.98) 4.1% vs. 4.9%; 0.82 (0.55-1.23) 8.7% vs. 11.4%; 0.76 (0.58-1.04) 10.6% vs. 11.4%; 0.94 (0.51-1.75) 16.0% vs. 19.4%; 0.80 (0.49-1.30)

Hypothetical strategies to reduce bleeding

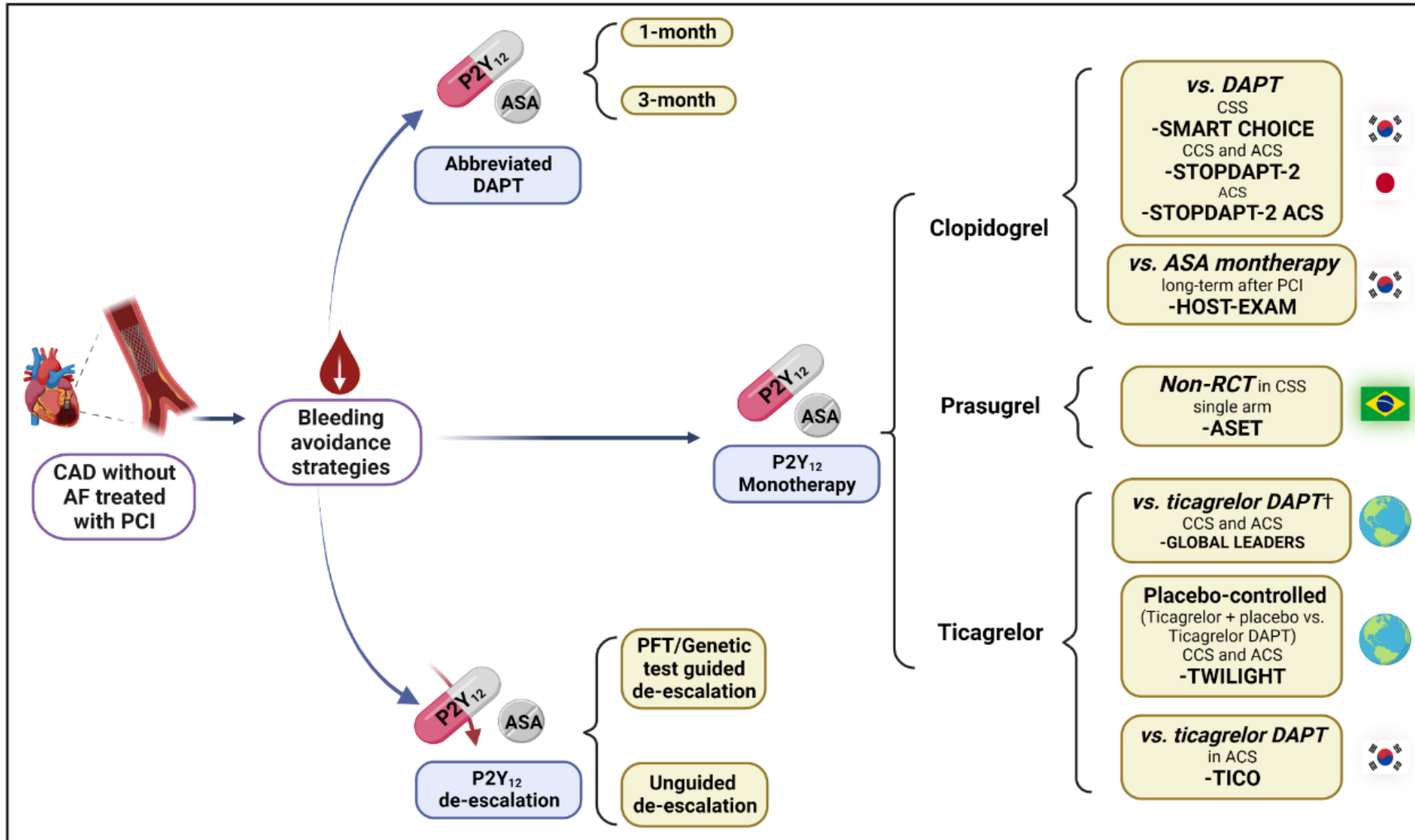
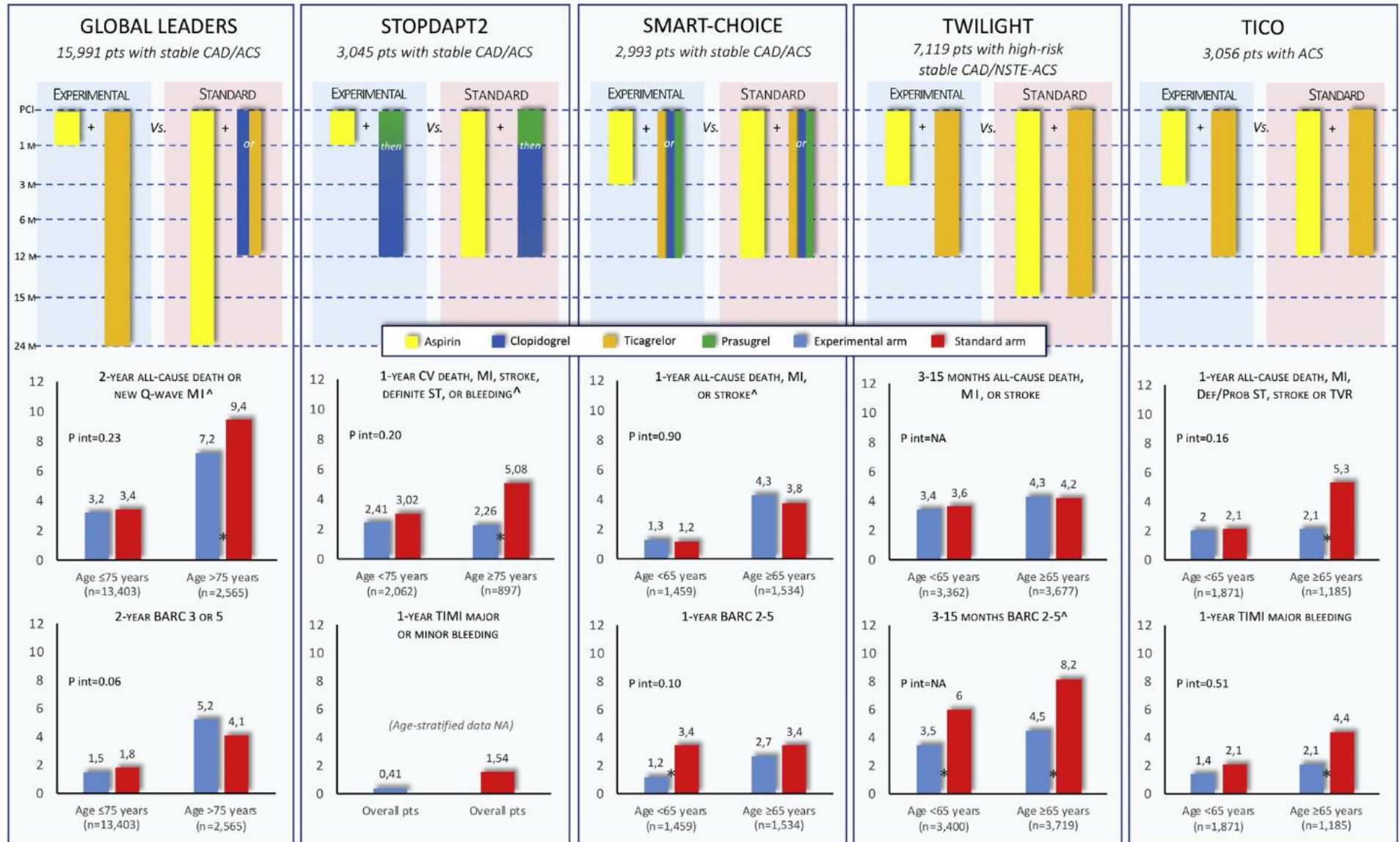
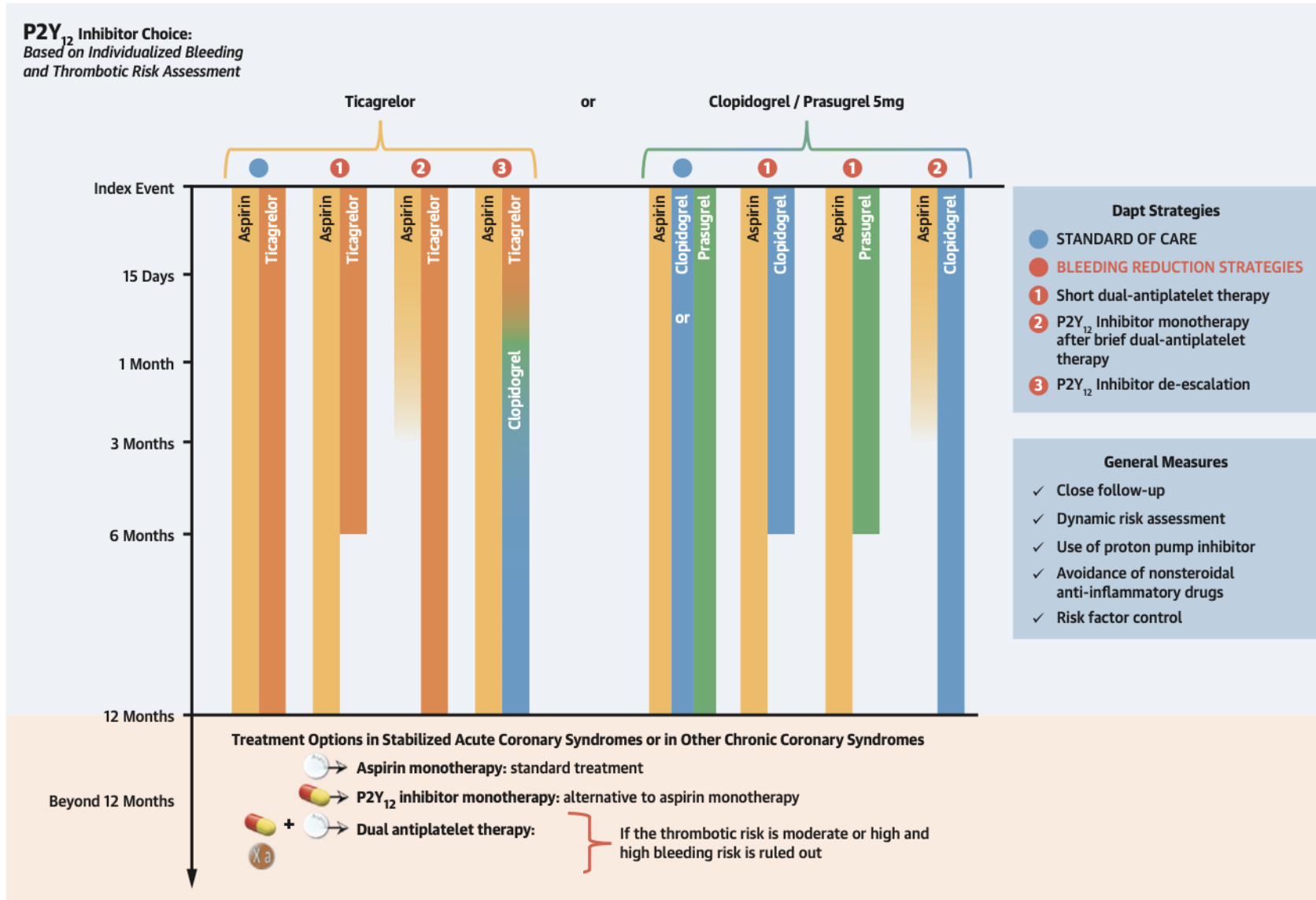


FIGURE 3 Design and Age-Specific Results of Randomized Studies Comparing P2Y₁₂ Monotherapy (Experimental Arm) Versus Standard 12-Month Dual Antiplatelet Therapy



CENTRAL ILLUSTRATION Antithrombotic Strategies to Minimize the Risk for Bleeding in Elderly Patients With Acute Coronary Syndromes



Acute, periprocedural and longterm antithrombotic therapy in older adults

2022 Update by the ESC Working Group on Thrombosis

Felicita Andreotti ^{1,2*}, Tobias Geisler ^{3*†}, Jean-Philippe Collet ⁴, Bruna Gigante⁵, Diana A. Gorog^{6,7}, Sigrun Halvorsen⁸, Gregory Y. H. Lip⁹, Joao Morais¹⁰, Eliano Pio Navarese^{11,12}, Carlo Patrono ^{13,14}, Bianca Rocca^{13,14}, Andrea Rubboli¹⁵, Dirk Sibbing ¹⁶, Robert F. Storey¹⁷, Freek W.A. Verheugt¹⁸, and Gemma Vilahur^{19,20}

- 1. Net benefits of antithrombotic therapies and interventions remain largely favourable in elderly patients with CVD , achieving greater absolute effects compared to younger patients.**
- 2. Choosing optimal regimens for older adults, although challenging, is possible on the basis of individual characteristics.**
- 3. We encourage deprescribing, polypill use, systematic bleeding risk assessment and bleeding-avoidance measures (e.g. PPI, abbreviated or de-escalated DAPT), particularly among HBR patients.**